

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

194. (New) A method for identifying a compound that potentially elicits or modulates T1R1/T1R3 (umami) - associated taste comprising:

(i) screening one or more compounds in a binding assay which identifies compounds that specifically bind to a T1R1/T1R3 (umami) taste receptor or which specifically modulate (enhance or inhibit) the specific binding of another compound to a T1R1/T1R3 (umami) taste receptor; and

(ii) identifying compounds that potentially elicit or modulate T1R1/T1R3 (umami) taste based on their (a) specific binding to a T1R1/T1R3 umami taste receptor or (b) modulation of the specific binding of another compound to a T1R1/T1R3 umami taste receptor.

195. (New) The method of claim 194 wherein said T1R1 receptor is selected from the group consisting of rat T1R1, mouse T1R1 and human T1R1 and said T1R3 is selected from the group consisting of rat T1R3, mouse T1R3 and human T1R3.

196. (New) The method of claim 194 wherein said T1R1 and T1R3 are of the same species origin.

197. (New) The method of claim 194 wherein said T1R1 and T1R3 are of different species origin.

198. (New) The method of claim 194 wherein said T1R1 is a human T1R1 having the amino acid sequence contained in SEQ. ID. NO: 5.

199. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 90% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

200. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 95% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

201. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 96% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

202. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 97% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

203. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 98% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

204. (New) The method of claim 194 wherein said T1R1 is a human T1R1 that exhibits at least 99% sequence identity to the polypeptide contained in SEQ. ID. NO: 5.

205. (New) The method of claim 194 wherein said T1R1 is encoded by the nutritive acid sequence contained in SEQ. ID. NO: 9.

206. (New) The method of claim 194 wherein said T1R1 is encoded by a nutritive acid sequence that hybridizes under stringent hybridization conditions to the nucleic acid sequence contained in SEQ. ID. NO: 9.

207. (New) The method of claim 194 wherein said T1R1 is a polypeptide is a fragment of the polypeptide encoded by the nucleic acid sequence contained in SEQ. ID. NO: 9 that when expressed in association with a T1R3 polypeptide yields a T1R1/T1R3 umami taste receptor that specifically binds to umami taste stimuli.

208. (New) The method of claim 194 wherein said T1R1 comprises a fragment of the human T1R1 polypeptide contained in SEQ. ID. NO. 5 that when expressed in association with a T1R3 polypeptide results in a heteromeric T1R1/T1R3 taste receptor that specifically binds umami taste stimuli.

209. (New) The method of claim 194 wherein said T1R3 is a human T1R3 having the amino acid sequence contained in SEQ. ID. NO: 7.

210. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 90% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

211. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 95% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

212. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 96% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

213. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 97% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

214. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 98% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

215. (New) The method of claim 194, wherein said T1R3 polypeptide possesses at least 99% sequence identity to the polypeptide contained in SEQ. ID. NO: 7.

216. (New) The method of claim 194 wherein the T1R3 polypeptide is a rat T1R3 polypeptide having the sequence contained in SEQ. ID. NO: 4.

217. (New) The method of claim 194 wherein the T1R3 polypeptide is encoded by the nucleic acid sequence contained in SEQ ID. NO: 9.

218. (New) The method of claim 194 wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that hybridizes to the nucleic acid sequence contained in SEQ. ID. NO: 9 under stringent hybridization conditions or a fragment thereof that encodes a T1R3 polypeptide which when expressed in association with

a T1R1 polypeptide yields a heteromeric umami T1R1/T1R3 taste receptor that specifically binds umami taste stimuli.

219. (New) The method of claim 194 wherein said T1R1/T1R3 receptor is expressed by a cell.

220. (New) The method of claim 194 wherein said T1R1/T1R3 receptor is comprised in a membrane extract.

221. (New) The method of claim 194 wherein said T1R1/T1R3 receptor is attached to a solid phase.

222. (New) The method of claim 194 wherein said T1R1/T1R3 receptor is in solution.

223. (New) The method of claim 194 wherein said T1R1/T1R3 receptor is comprised in a liquid bilayer or vesicle.

224. (New) The method of claim 219 wherein said cell is an intact or permeabilized cell.

225. (New) The method of claim 219 wherein said cell further expresses a G protein.

226. (New) The method of claim 219 wherein said cell is a prokaryotic cell.

227. (New) The method of claim 219 wherein said cell is a eukaryotic cell.

228. (New) The method of claim 227 wherein said cell is an insect, yeast, amphibian or mammalian cell.

229. (New) The method of claim 227 wherein said cell is a CHO cell, HEK-293 cell, COS cell or Xenopus oocyte.

230. (New) The method of claim 194 wherein the binding assay detects changes in the conformation of the T1R1/T1R3 heteromeric receptor.

231. (New) The method of claim 230 wherein said change is detected by NMR spectroscopy.

232. (New) The method of claim 230 wherein said change is detected by fluorescence spectroscopy.

233. (New) The method of claim 194 wherein said T1R1/T1R3 umami receptor further comprises a G protein.

234. (New) The method of claim 233 wherein said G protein is  $G_{\alpha 15}$ ,  $G_{\alpha 16}$  or gustducin.

235. (New) The method of claim 194 wherein said binding assay includes the use of a detectable label.

236. (New) The method of claim 235 wherein said label is an enzyme, radionuclide, chemiluminescent compound or fluorescent compound.

237. (New) The method of claim 197 wherein the binding assay detects displacement of a labeled legand said such T1R1/T1R3 heteromeric receptor.

238. (New) The method of claim 194 wherein said binding assay is a fluorescence polarization or FRET assay.

239. (New) The method of claim 194 wherein the binding assay detects conformational changes in the T1R1/T1R3 taste receptor based on altered susceptibility to proteolysis.

240. (New) The method of claim 194 which is a competitive binding assay.

241. The method of claim 194 wherein to binding assay is a non-competitive binding assay.

242. (New) The method of claim 194 wherein the binding assay detects the effect of said compound on the specific binding of another compound to said receptor.

243. (New) The method of claim 194 wherein said binding assay detects the effect of said compound on the binding of L-glutamate or L-aspartate to said receptor.

244. (New) The method of claim 194 wherein said binding assay uses a cell that stably expresses the T1R1/T1R3 receptor on its surface.

245. (New) The method of claim 194 which said binding assay uses a cell that transiently expresses the T1R1/T1R3 receptor on its surface.

246. (New) The method of claim 194 wherein the binding assay uses an HEK-293 cell that stably expresses T1R1/T1R3 and further expresses G<sub>α</sub>15.

247. (New) The method of claim 246 wherein said binding assay detects the effect of said compound on the binding of a radioactively or fluorescently labeled legand to said receptor.

248. (New) The method of claim 194 wherein said binding assay detects binding based on a detectable change in fluorescence absorbance or refractive index.

249. (New) The method of claim 194 wherein the binding assay is a high throughput screening assay.

250. (New) The method of claim 247 wherein the assay screens a combinatorial chemical library.

251. (New) The method of claim 247 wherein the assay screens a randomized small compound library.

252. (New) The method of claim 194 which further includes step (3) wherein the effect of said compound on a T1R1/T1R3 umani taste receptor is evaluated in a human or animal taste test.



**IN THE TITLE:**

Kindly cancel the prior title and substitute the following

**TITLE:**

- Binding Assays That Use the T1R1/T1R3 (Umami) Taste Receptor to  
Identify Compounds That Elicit or Modulate Umami Taste -